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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/851,235	05/08/2001	Harvey R. Bialk	2001-0192	3999

22045 7590 02/24/2005

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EXAMINER	
SALTARELLI, DOMINIC D	

ART UNIT	PAPER NUMBER
2611	

DATE MAILED: 02/24/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/851,235	BIALK ET AL.	
	Examiner	Art Unit	
	Dominic D Saltarelli	2611	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *01 September 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-7,9 and 10* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-7,9 and 10* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *11/1/04, 9/15/04*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to amended claim 1 have been considered but are moot in view of the new grounds of rejection. In response to applicant's arguments on page 9, first paragraph, it is the examiner's position that the combination of Farry, Dev, and Ludwiczak, Opoczynski, and Gorman do in fact collectively teach the claimed feature of automatically provisioning network elements, as described below regarding claim 1.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1, 2, 3, 9 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Farry et al. (5,608,447, listed in PTO-892 of the first action) [Farry] in view of Dev et al. (5,559.955, listed in PTO-892 of the first action) [Dev], Ludwiczak et al. (5,513,171, listed in PTO-892 of the first action) [Ludwiczak], Opoczynski (5,519,830, listed in PTO-892 of first action), Gorman et al. (6,137,793, listed in PTO-892 of first action) [Gorman], and Wagner et al. (5,761,602) [Wagner].

Regarding claim 1, Farry discloses a hybrid fiber coax (HFC) network (col. 3, lines 5-9) comprising:

A combiner and splitter network (col. 6, lines 10-18, col. 7 lines 45-55, and col. 8, lines 20-42);

A plurality of network elements operable for communicating telephony signals, data signals, and video signals with customer premises equipment of subscribers via the combiner and splitter network (broadcast video, POTS, and data services are all provided, col. 6 line 49 – col. 7 line 15);

Wherein the customer premises equipment includes a network interface unit [NIU] (telephone attached to the telephone connection 940 in fig. 9, col. 8, lines 26-36), a data reception device (connected to data interface 930 in fig. 9, col. 8, lines 26-36), and a set top box (connected to TDM multiplexer 910 in fig. 9, col. 8, lines 26-36 and col. 10, lines 25-62);

Wherein the plurality of network elements includes sets of video equipment for communication video signals with the STBs of the subscribers bia the combiner splitter network (col. 4, lines 18-20 and col. 6, lines 10-32);

Wherein the combiner and splitter network combines the telephony signal, the data signal, and the video signal communicated from the network elements for the customer premises equipment of a subscriber into a combined subscriber signal, and then provides the combined subscriber signal to the customer premises equipment of the subscriber (col. 7, lines 45-55 and col. 8, lines 20-25);

Wherein the NIU, the data reception device, and the STB of the subscriber respectively extract the telephony signal, the data signal, and the video signal from the combined subscriber signal (col. 8, lines 26-36);

A database (Figure 5, 530) operable for storing data indicative of the configuration and logical connections [virtual circuit data tables] of the network elements and the customer-premises equipment (col. 7, lines 23-33); and

An online provisioning application link (OPAL) (Level 1 gateway, col. 4, lines 43-51) operable with the database (col. 11, lines 32-36) for provisioning selected ones of the network elements with the customer-premises equipment of the subscriber in order to enable communication of telephony, data, and video signals between the network elements and the customer-premises equipment of the subscriber via the combiner and splitter network.

Farry fails to disclose the data signals are IP data signals, the customer premises equipment data reception device is a cable modem, the plurality of network elements includes host digital terminals (HDTs) and cable modem termination systems (CMTSs), and the database is a service, design, and inventory (SDI) database operable for storing data indicative of assigned capacity of the network elements and for storing data indicative of the physical connections between the network elements themselves and with the customer-premises equipment of the subscribers, and the online provisioning application link (OPAL) is operable with the SDI database to access the stored data for automatically, without manual intervention, provisioning network elements with the customer-premises equipment of a given subscriber based on the configurations of the network elements and the customer-premises equipment of the given subscriber and based on the assigned capacity of the network

elements such that the provisioned network elements and the customer-premises equipment of the given subscriber are physically and logically connected in order to enable communication of the telephony, data, and video signals between the HFC network and customer-premises equipment of the given subscriber, and the SDI database is operable with the OPAL in order to automatically update, without manual intervention, the stored data indicative of the configuration of the network elements and the customer-premises equipment of the subscriber, the assigned capacity of the network elements, and the physical and logical connections between the network elements themselves and with the customer-premises equipment of the subscribers to account for the automated provisioning of the provisioned network elements with the customer-premises equipment of the given subscriber.

In an analogous art, Dev teaches a virtual network which serves as a database which contains all relevant information concerning the managing and monitoring of a network (col. 5, lines 20-44), including the servicing of the network (col. 5, lines 21-25), the design of the network [the physical connections between all devices] (col. 5, lines 29-34), the inventory of the network (col. 5, lines 35-39), centralizing all such information into one relevant database, simplifying the managing and monitoring of the network.

It would have been obvious at the time to a person of ordinary skill in the art to modify the network disclosed by Farry to include an SDI database which stores the data indicative of the configuration of the network elements and

customer-premises equipment of subscribers and also the physical connections between the HFC network and the customer-premises equipment of subscribers as taught by Dev, for the benefit of centralizing all such information into one relevant database which simplifies the managing and monitoring of the HFC network.

Farry and Dev fail to disclose the data signals are IP data signals, the customer premises equipment data reception device is a cable modem, the plurality of network elements includes host digital terminals (HDTs) and cable modem termination systems (CMTSs), and the online provisioning application link (OPAL) is operable with the SDI database to access the stored data for automatically, without manual intervention, provisioning network elements with the customer-premises equipment of a given subscriber based on the configurations of the network elements and the customer-premises equipment of the given subscriber and based on the assigned capacity of the network elements such that the provisioned network elements and the customer-premises equipment of the given subscriber are physically and logically connected in order to enable communication of the telephony, data, and video signals between the network elements and customer-premises equipment of the given subscriber, and the SDI database is operable with the OPAL in order to automatically update, without manual intervention, the stored data indicative of the configuration of the network elements and the customer-premises equipment of the subscriber, the assigned capacity of the network elements, and the physical

and logical connections between the network elements themselves and with the customer-premises equipment of the subscribers to account for the automated provisioning of the provisioned network elements with the customer-premises equipment of the given subscriber.

In an analogous art, Ludwiczak teaches a network (fig. 1, network 100) wherein an OPAL (fig. 1, part of network management system [NMS] 150) is operable with a database (fig.1, database 160) to access stored data (col. 3, lines 8-16) for automatically, without manual intervention, provisioning network elements with the customer-premises equipment [CPE] of a given subscriber based on the configurations of the network elements and the customer-premises equipment of the given subscriber and based on the assigned capacity of the network elements such that the provisioned network elements and the customer-premises equipment of the given subscriber are physically and logically connected (col. 3, lines 8-29); and the database is operable with the OPAL in order to automatically update, without manual intervention, the stored data indicative of the configuration of the network elements and the customer-premises equipment of the subscriber (col. 3, lines 50-55), the assigned capacity of the network elements (configuration of each element, col. 3, lines 45-50, wherein the configuration of each element defines capacity, col. 3, lines 18-21), and the physical and logical connections between the network elements themselves and with the customer-premises equipment of the subscribers (col. 3, lines 50-55) to account for the automated provisioning of the provisioned network

elements with the customer-premises equipment of the given subscriber (col. 3, lines 55-60), allowing the network to be monitored and managed automatically, for faster and more efficient network supervision (col. 3, lines 22-29 and 39-44).

It would have been obvious at the time to a person of ordinary skill in the art to modify the HFC network and corresponding method disclosed by Farry and Dev to include the OPAL to be operable with the SDI database to access the stored data for automatically, without manual intervention, provisioning network elements with the customer-premises equipment of a given subscriber based on the configurations of the network elements and the customer-premises equipment of the given subscriber and based on the assigned capacity of the network elements such that the provisioned network elements and the customer-premises equipment of the given subscriber are physically and logically connected in order to enable communication of the telephony, data, and video signals between the HFC network and customer-premises equipment of the given subscriber; and the SDI database is operable with the OPAL in order to automatically update, without manual intervention, the stored data indicative of the configuration of the network elements and the customer-premises equipment of the subscriber, the assigned capacity of the network elements, and the physical and logical connections between the network elements themselves and with the customer-premises equipment of the subscribers to account for the automated provisioning of the provisioned network elements with the customer-premises equipment of the given subscriber, as taught by Ludwiczak. The

reason for doing so is to monitor and manage the HFC network automatically, for faster and more efficient network management and supervision.

Farry, Dev, and Ludwiczak fail to disclose the data signals are IP data signals, the customer premises equipment data reception device is a cable modem, the plurality of network elements includes host digital terminals (HDTs) and cable modem termination systems (CMTSs).

In an analogous art, Opoczynski discloses a host digital terminal (300) for communicating telephony signals over a network (col. 3, lines 44-57).

It would have been obvious at the time to modify the HFC network disclosed by Farry, Dev, and Ludwiczak to include among the network elements a host digital terminal for communicating the telephony signals as taught by Opoczynski in order to provide a means for distributing the telephony signals over the network, enhancing the flexibility of the system and expanding the services offered.

Farry, Dev, Ludwiczak, and Opoczynski fail to disclose the data signals are IP data signals, the customer premises equipment data reception device is a cable modem, the plurality of network elements include cable modem termination systems (CMTSs).

In an analogous art, Gorman discloses a CMTS (col. 8, lines 39-46) for communicating data to customer premises cable modems over a network.

It would have been obvious at the time to further modify the network disclosed by Farry, Dev, Ludwiczak, and Opoczynski to include among the

network elements a CMTS for communicating the data signals to customer premises cable modems, as taught by Gorman in order to provide a stable, well established means for communicating data signals over the network, enhancing the flexibility of the system and expanding the services offered.

Farry, Dev, Ludwiczak, Opoczynski, and Gorman fail to disclose the data signals are IP data signals.

In an analogous art, Wagner teaches utilizing a cable television network to transmit IP data signals to clients, taking advantage of the very high bandwidth available for download of such over said network (col. 3, lines 23-46).

It would have been obvious at the time to a person of ordinary skill in the art to modify the network disclosed by Farry, Dev, Ludwiczak, Opoczynski, and Gorman to include IP data signals, as taught by Wagner, for the benefit of establishing a very high bandwidth connection to IP networks, such as the Internet.

Regarding claim 2, Farry, Dev, Ludwiczak, Opoczynski, Gorman and Wagner, as applied above, disclose the network of claim 1, but fail to disclose an HFC network manager for monitoring the network elements and the customer-premises equipment, for controlling configuration of the network elements and the customer-premises equipment, and for monitoring the configuration of the network elements and the customer-premises equipment.

Ludwiczak further discloses an HFC network manager (fig. 1, NMS 150, col. 3, lines 45-60) for monitoring the network elements and the customer-premises equipment, for controlling configuration of the network elements and the customer-premises equipment, and for monitoring the configuration of the network elements and the customer-premises equipment (col. 3, lines 8-21, 45-60), increasing the efficiency of an HFC network by dedicating a management system which can automatically monitor and control network configuration.

It would have been obvious at the time to a person of ordinary skill in the art to modify the network disclosed by Farry, Dev, Ludwiczak, Opoczynski, Gorman and Wagner to include an HFC network manager for monitoring the network elements and the customer-premises equipment, for controlling configuration of the network elements and the customer-premises equipment, and for monitoring the configuration of the network elements and the customer-premises equipment, as further taught by Ludwiczak. The reason for doing so is to increase the efficiency of the network by dedicating a management system which can automatically monitor and control network configuration of network elements and customer-premises equipment.

Regarding claim 3, Farry, Dev, Ludwiczak, Opoczynski, Gorman and Wagner, as applied above, disclose the broadband network of claim 2, but fail to disclose a fault manager having an alarm visualization tool operable with the HFC network manager and the SDI database for generating visual displays of the

status and configuration of the network elements and the customer-premises equipment of the subscribers based on the monitored status of the network elements and the customer-premises equipment and the data indicative of the configuration of the network elements and the customer-premises equipment.

Dev further discloses a network management system which includes a fault manager [user interface (10)] that visually displays the status and configuration of every device in the network (col. 5, lines 21-25, 28-35, 41-44) and an alarm visualization tool (col. 8, lines 29-39) which is based on the monitored status and data indicative of the configuration of the network elements, so that an operator is provided with different views of the network being managed (col. 3, lines 55-60) along with any alarms or events occurring within the network (col. 5, lines 14-16).

It would have been obvious at the time to a person or ordinary skill in the art to modify the HFC network method disclosed by Farry, Dev, Ludwiczak, Opoczynski, Gorman and Wagner to include a fault manager having an alarm visualization tool operable with the HFC network manager and the SDI database for generating visual displays of the status and configuration of the network elements and the customer-premises equipment (where customer-premises equipments is considered a network element in light of the Dev disclosure) of the subscribers based on the monitored status of the network elements and the customer-premises equipment and the data indicative of the configuration of the network elements and the customer-premises equipment, as taught by Dev. The

reason for doing so is that an operator is provided with different views of the network being managed along with any alarms or events occurring within the network, quickly alerting an operator to the precise location and nature of any faults that occur within the HFC network.

Regarding claim 9, Farry, Dev, Ludwiczak, Opoczynski, Gorman and Wagner disclose the network of claim 1, wherine the network elements further include a fiber optics node connected at one end to the combiner and splitter network by a fiber optics network and connected at the other end to the customer premises by coax (col. 7 line 65 – col. 8 line 25).

Regarding claim 10, Farry, Dev, Ludwiczak, Opoczynski, Gorman and Wagner disclose the network of claim 1, and additionally disclose an order manager (Farry, information server 501) operable with the OPAL (Farry, col. 11, lines 21-28) for monitoring the provisioning of HFC network elements with customer-premises equipment by OPAL.

4. Claims 4-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Farry, Dev, Ludwiczak, Opoczynski, Gorman and Wagner, as applied to claim 3, and further in view of Daniel, III et al. (4,972,453, listed on PTO-892 of first action) [Daniel].

Regarding claims 4 and 6, Farry, Dev, Ludwiczak, Opoczynski, Gorman and Wagner disclose the network of claim 3, but fail to disclose a trouble ticket

system operable with at least one of the HFC network manager and the fault manager for generating trouble ticket alerts in response to improper status or configuration of at least one of the network elements and the customer-premises equipment.

In an analogous art, Daniel discloses a trouble ticket system (104) (col. 3, lines 36-39) operable with expert system (102) which generates trouble ticket alerts in response to the state of various components within a network (col. 3, lines 23-36), this state being configurations of network components (col. 5, lines 6-8) or status of individual network components in order to generate a fault report alerting the network manager [expert system] to problems with the network (col. 2, lines 18-39).

It would have been obvious at the time to a person of ordinary skill in the art to modify the network disclosed by Farry, Dev, Ludwiczak, Opoczynski, Gorman and Wagner, to include a trouble ticket system operable with at least one of the HFC network manager and the fault manager for generating trouble ticket alerts in response to improper status or configuration of at least one of the network elements and the customer-premises equipment as taught by Daniel. The reason for doing so is to generate a fault report which alerts the HFC network manager or the fault manager to problems with the network.

Regarding claims 5 and 7, Farry, Dev, Ludwiczak, Opoczynski, Gorman, Wagner, and Daniel disclose the network of claims 4 and 6, and is characterized

in that the HFC network manager updates the improper status of at least one of the network elements and the customer-premises equipment to a proper status after the trouble ticket has been addressed.

The HFC network manager introduced by Ludwiczak automatically updates the status and configuration data stored in the database whenever a change takes place (Ludwiczak, col. 3, lines 55-60).

Conclusion

7. The following are suggested formats for either a Certificate of Mailing or Certificate of Transmission under 37 CFR 1.8(a). The certification may be included with all correspondence concerning this application or proceeding to establish a date of mailing or transmission under 37 CFR 1.8(a). Proper use of this procedure will result in such communication being considered as timely if the established date is within the required period for reply. The Certificate should be signed by the individual actually depositing or transmitting the correspondence or by an individual who, upon information and belief, expects the correspondence to be mailed or transmitted in the normal course of business by another no later than the date indicated.

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Please refer to 37 CFR 1.6(d) and 1.8(a)(2) for filing limitations concerning facsimile transmissions and mailing, respectively.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dominic D Saltarelli whose telephone number is (703) 305-8660. The examiner can normally be reached on M-F 10-7.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christopher Grant can be reached on (703) 305-4755. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Dominic Saltarelli
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Art Unit 2611

DS

CHRIS GRANT
PRIMARY EXAMINER